The need, therefore, was for a drug which would act in an alkaline urine and not require the renal function necessary with the previously used drugs. At this point, in 1937, sulfanilamide began coming into use, in this country, for Streptococcal infections. Helmholz investigated its use as a urinary antiseptic and found that it created a bactericidal urine which acted against most of the common urinary invaders.

Following this experiment, it was found by Buchtel and Cook that sulfanilamide was more bactericidal for bacillary than for coccal infections, especially the Streptococcus fecalis. They also showed that the drug was excreted by the prostate, but in lower concentration than in the urine.

More recently, Cook used neoprontosil soluble orally in urinary infections, and found fewer reactions than with sulfanilamide. As with mandelic acid and sulfanilamide, neoprontosil soluble was found of most value in uncomplicated cases caused by the usual Gram-negative bacilli, the beta hemolytic Streptococci, or some of the Micrococci.

At present sulfapyridine is another drug which is being tested widely for its efficacy in urinary tract infections, and its value should be known shortly. Other drugs will undoubtedly be offered the medical profession in the near future, but none should be accepted until careful investigation has proved its worth.

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DIFFERENTIAL COUNT FOR SPERMATOZOA

There has been a great deal of interest shown lately in the differential count of spermatozoa. The following method of staining is quite satisfactory and not at all complicated:

The semen should be diluted with ten parts of Ringer's solution with 0.5 per cent chloramin added, and centrifuged strongly for twenty minutes or more; the supernatant liquid poured off, and the sediment spread on a slide as for a blood smear. (The fresh specimen should be examined microscopically before making the smear, and the smear should be made thick or thin, according to the density of the sperm population.)[1]

The smear is then dried, fixed in methyl alcohol and washed with distilled water.

Stain with Sterling's gentian violet, one per cent, one-half to one minute. (Williams uses gentian violet, one-fourth of one per cent, for four or five minutes.)[2]

Wash in distilled water.

Place in Gram's iodin one minute.

Decolorize in alcohol, 80 per cent, acetone, 20 per cent, not over one-half minute.

Counterstain ten to thirty seconds with rose bengal.

Wash in distilled water.

Dry and examine with the 1/12 (oil).

If a permanent smear is desired, mount with balsam and cover slip.

This stain is a modification of that given by W. W. Williams.[3]

Hotchkiss'[4] method of staining, though more complicated, is better for permanent smears.

Moench's[5] stain is very satisfactory, but chloramin is better than chlorozene for removing mucus.

A fresh wet specimen should be studied, both with the H. D. F. and oil, and compared with the findings of the stained smear for proper evaluation.

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USES AND ABUSES OF PITUITARY EXTRACT DURING LABOR

There is no question that posterior pituitary preparations have been woefully misused in the conduct of obstetric cases. They have been given indiscriminately in the first and second stages of labor to increase the intensity of uterine action, and to speed up the normal processes. DeLee, and others, feel that the injudicious and indiscriminate use of the pituitary preparations is one of the major factors contributing to the persistently high maternal and fetal death rates in the United States.

Any oxytocic given, with or without proper indications, can kill both mother and baby. These oxytocic drugs are really never indicated in the first or second stages of labor. It is dangerous to interfere with the normal uterine motility.

Posterior pituitary extract used during labor initiates marked tetany of the uterus; as this tone diminishes, the uterine contractions increase in severity and frequency. This abnormal uterine action may result in interference with the placental circulation, resulting in fetal asphyxia, and even death. It may, likewise, result in interference with the uterine circulation and, subsequently, damage the uterine musculature.

Other uterine conditions which may result from injudicious use of pituitary extract are rupture of the uterus; laceration of the cervix with hemorrhage or infection; secondary atony of the uterus with thrombosis and embolism, and even cardiac death from sudden overexertion.

It is true that many doctors use small doses of pituitary extract during the second stage of labor and claim no untoward results. However, one never knows how an individual may react, and rather than take a chance with life the drug should be used only when indicated, and that is in the third stage of labor. Used judiciously and with the proper indications, the oxytocic drugs often prevent the occurrence of postpartum hemorrhage and the serious results that may be caused by it.

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5 Moench, G. L.: Clinical Laboratory Methods and Diagnosis, Gradwohl, 2nd ed., p. 710, 1938.